

*Senior Project*

*Department of Economics*



“International student-  
athletes and college soccer  
success”

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**Abstract:**

*This paper employs 2018 NCAA D1 Men's College data to estimate the impact of international student-athletes on the success that college soccer teams have during the fall semester. Although, soccer is not by far the sport that generates the most money for Division I athletic department or the most popular one, its popularity is increasing over the past decade and has been attracting more international students. The results of this analysis indicate that international players have little to do with the success of a team in this competition.*

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## I. Introduction

The National Collegiate Athletic Association (NCAA) has been a major part in higher education in the United States. It was first designed to establish a football competition for colleges all around the US over a century ago. Eventually it spread out to create several organized competitions for other sports such as soccer. The first edition of men's division 1 college soccer was in 1959 which the Saint Louis University won against the University of Bridgeport. The latest champion of this competition is the Georgetown University in 2019. The NCAA men's soccer is divided into 3 divisions, which are based on the size and the competitiveness of its member institutions. As of the 2018 soccer season, 206 universities were among the ranks of Division I and those teams are unequally distributed in 24 conferences. The season of college soccer is during the Fall semester. Its entire season is crammed into just four months of play, running from late August to early November for regular season play, with the NCAA championship played in November and December. The NCAA rules on college soccer have no restriction on the size of the team's roster. The rules also allow up to 11 substitutions at a time. Players are also allowed one re-entry in the match, as opposed to professional soccer's strict three substitutions rule.

Although soccer is not a major sport in the United States like football or basketball, its popularity has been increasing over the years. The outstanding women's soccer team has been one of the top 3 teams who dominate the international competitions who recently, in 2019, has won the 4<sup>th</sup> FIFA Women's World Cup against Netherlands, which is the biggest soccer competition between countries. They have also won 8 CONCACAF Gold Cups and they are currently the number 1 in the FIFA Women's ranking. The men's team has appeared in ten FIFA World Cups and have won six Gold Cups, which is a continental competition, and are currently

in the 22<sup>nd</sup> position in the FIFA ranking. The Major League Soccer (MLS) has also been increasing in popularity since big European stars such as David Beckham, Steven Gerard, and more recently Zlatan Ibrahimović have joined the MLS which not only brings more visibility for the league as well invites more international players or future players to come to the US.

As a former international student-athlete, I want to find out if the recruitment of international players into the US college soccer programs has an important influence on its success in the NCAA first division men's soccer college.

An interesting point of this study is that there is always speculation that recruiting international players, mainly from Europe, will increase the chances of improving the quality of the squad, how teams play and eventually will bring better results in the competition. There are no reports or studies suggesting some kind of controversy in the use of international players on US college teams but there are some teams that prefer using only American players in its squads, such as Lehigh, SMU and William & Mary, and there are three college such as Air Force, Army West Point and Navy where it is mandatory to use only American players due to the organization they belong. During the 2018 season in the first division of the NCAA men's college soccer, there were 1,501 international players enrolled in a total of 4,874 players meaning that international players represent approximately 30.8% of all college soccer players (NCAA.org/stats). Although the number itself differs from college to college, every institution has different tuition and insurance fees for US and international citizens, with the latest having a higher value. There are also some extra expenses related to the recruitment of international players. One of the purposes of this study is to contribute to understanding if it is worth the added expense.

Since soccer has a bigger impact in Europe and its level is the highest in the world, there is a significant attraction for US college coaches to recruit student-athletes as a tool to have success in Division 1 College Soccer. This study will try to estimate what causes success by using some indicators but more importantly it is to study if US college coaches should focus on recruiting top players from Europe and non-Europe by sending their coaching staff members to fly to different countries or if that decision is not worth it and they should go instead with domestic student-athletes.

## II. Literature Review

In my research, I was able to confirm that there are a significant amount of studies showing the importance of the NCAA competitions on universities across the United States. In college football or any other sport, recruitment is very important. If this process is well done, the possibility of a team performing well and achieving better results is high. This study, written by Cary A. Caro (2012), examines the relationship between recruiting and a team success in college football. It shows that for teams in the Southeastern Conference, the Big Ten, and the Big Twelve, 63% to 80% of a team's success in their respective conference can be attributed to successful recruiting practices. It shows the true purpose of the recruitment process. It shows that for the team to be successful they must recruit talented athletes, which can be a statement used for any sport, including soccer. Teams must have the ability to attract and sign the best players which is a main factor for success. Caro (2012) says that schools improve their ability to recruit young talents by upgrading facilities, build better football stadiums, and provide a better academic support in an effort to gain a competitive advantage in recruiting. Although this study focuses on football, it can also be used in college soccer since recruiting talented soccer players

is also a big part of increasing success during the season. Therefore, it is important to do those upgrades to improve soccer teams' ability to recruit. Caro (2012) also states that in order to make this improvement, programs demand a considerable financial investment on the part of the athletic department. Schools with more money may have an advantage here, due to their ability to obtain services of private talent scouts to grade and project their top targets and or have more financial aid to support players than universities with less financial power. Another important determinant to successful recruiting is winning. The more winning percentage a team has, the more attract it becomes to potential recruits. Top talented players will seek teams that perform well in previous years that have a high winning percentage. Players with ambition to play at the professional level will want to play for these teams as the dream or aim to pursue a professional career.

Another aspect that is considered important in sports, more specifically team sports, is the relationship between coaches and players. Short, Sandra E., and Martin, Jeffrey (2018) conducted a study about the players' perceptions of their coaches and their team's efficacy with the aim to provide practical implications for coaches who were looking to improve their coaching skills and team efficacy. In sport psychology research, efficacy beliefs are considered critical psychological factors that influence performance. In their research, the model they conducted suggested that experience/ preparation, prior success, perceived skill of athletes, and community support are qualifications of coaching efficacy. In turn, coaching efficacy is thought to positively predict adaptive coaching behaviors, player satisfaction, player/team performance, and, applicable to their study, player and team efficacy. Therefore, in theory, a coach with more experience in the game would have more knowledge and more skills that would lead a team to perform better than coaches with fewer years of experience and/or with zero years as a head



coach. If a coach does not have his team believing in his/her coaching abilities, players' efficacy in their team's ability to perform could suffer consequently. In college soccer this could be essential since it's a sport that has been growing in the United States and requires a deeper research by the coaches when comparing to the major sports such as football or basketball.

While there is no study conducted regarding international players in college soccer, Turcott, Ryan, and Pifer, N. David (2018) developed a study about the recruitment of international players and its advantages in college basketball. It shows that basketball, since the late 20<sup>th</sup> century, has continued to see tremendous global growth in terms of its registered participants and the overall number of competitions taking place. This gives coaches and scouts in the United States a broader range of scouting that enables them to observe distant games, therefore international players are becoming more attainable to recruit. Their study suggests that mid-major NCAA Division I men's basketball programs have identified internationals as an emerging niche in the market for player recruitment. It also states that results seem to highlight the early offensive advantages that can be offered by these international players. With soccer been born outside of the United States and been developing with a significant amount of years ahead, coaches are inclined to seek the market of international players to upgrade their game.

### III. Empirical Model

The main objective of this analysis is to understand if international players have a strong positive influence on a team's success in the NCAA Division I men's soccer and if it is worth to go through such lengths to recruit those international student-athletes. As noted above, the recruitment of players is an important factor which impacts teams' success in their competition. Other factors, such as the coach experience in coaching and managing players as well for the players' own experience in the game, are also considered as important factors that influence

success in sport competition. Considering these features, the equation that predicts the influence of success in college men's soccer is as follows:

$$\text{SUCCESS}_{i,t} = \beta_{1,t} + \beta_2 \text{TOTALPLAYER}_{i,t} + \beta_3 \text{INTPERCT}_{i,t} + \beta_4 \text{SRPERCT}_{i,t} + \beta_5 \text{COACHEX}_{i,t} + \beta_6 \text{CONF\_RPI}_{i,t}$$

The variable SUCCESS represents the accomplishment a team had during the regular season, throughout the conference championships, through the college cup playoffs if it participated, and in the college cup final four if it was qualified.

TOTALPLAYER is a variable that represents the total population, as in this particular study the total number of a team's roster. These values were reported by the NCAA and are shown in real numbers. This variable is expected to have a positive sign. The higher the size of squad the higher are the chances of having a versatility team as well of having talented players enrolled. The NCAA rules state that there's no restriction on the number of players per team, unlike most major sports.

To show the weight that the international players represent in a team, INTPERCT was developed. It is an indicator in percentage values of the total number of players in each team. It will in the analysis by giving an insight on how it influences a team's success. Since the recruitment of international players is related to recruitment of talented players, this variable's sign is expected to be positive. The more international players a team has, the team's probability of having success is higher.

The variable SRPERCT is the representation of senior players in a team. It is also represented as a percentage of the total players enrolled per team. It can show a team's experience in college soccer regarding its senior population. A more experienced team in a competition is expected to

perform well in the following season. This variable is also expected to have a positive sign since previous experience in any sport is likely to help getting better performances.

The variable COACHEX represents the total years that the team's coach has as a head coach in the NCAA Division I college men's soccer. This indicator's sign is expected to be positive due to the same principal as the SRPERCT variable. The more experienced a coach is the more likely is he/she able to efficiently manage a team and achieve a higher success rate.

The CONF\_RPI is a variable that will measure the strength of the schedule of the 206 teams in the NCAA Division I. Each team will be corresponded to the adjusted RPI of its conference. The RPI stands for rating percentage index and the conference adjusted RPI is measured through games of December 9 of 2018, a date which was the final of the college cup between the University of Akron and the University of Maryland representing the end of the 2018 season. The expected sign of this variable could be in either direction. It could be positive since it characterizes the progress of each team throughout the season, meaning that teams would be able to recruit better players, or it could be negative since a high conference RPI represents a tougher competition.

#### IV. Data Description

Due to NCAA regulations, highly accurate team rosters figures are kept by every college men's soccer program and then reported to the NCAA. Players data for the 2018 season used in this analysis were gathered from the NCAA's official website (NCAA.org/stats). During 2018 season a total of 4,874 players were officially enrolled, not equally distributed between the 206 teams. Of those 4,874 players, 3,373 were American born or US citizens players representing approximately 69.2% of the NCAA Division 1 men's soccer players. The other 1,501 or 30.2%

of the total players were international student-athletes. Of the 4,874 players, 1,125 were senior players representing approximately 23.08%. For the representation in the model and for an easier interpretation of the results, the international players were estimated in percentage of the total players, `INTPERCT`, as well for the senior players, `SRPERCT`, and the total players were estimated in real values, `TOTALPLAYER`.

In addition to team rosters figures, the NCAA also keeps a record of the matches played between the 206 teams. Over the course of the 2018 season 3,773 total games were played in Division 1. Only one of those 3,773 games were played against a member of a non-NCAA Division 1 during the regular season, which does not count towards the RPI ranking. Of those 3,772 games played among Division 1 opponents, 3 were played at neutral sites which represent the final four of the men's soccer College Cup at the University of California Santa Barbara in California. The `SUCCESS` variable was gathered from the NCAA men's soccer record books throughout the regular season and the playoffs, and transformed into values by calculating the sum of 3 point per win plus 1 point per tie.

The variable `COACHEX`, was also collected from the NCAA's official website. This variable represents the total years of experience of each team's coach as a head coach up to, and including, the 2018 season.

Lastly, the strength of the team's schedule was gathered from the NCAA's official website. More specifically, this variable was evaluated by the adjusted RPI of each single conference in the Division 1 men's soccer. Each conference RPI, `CONF_RPI`, was calculated by the winning-tie-loss percentage of the matches played by its members. The conference RPI will increase if its members have a higher winning percentage, a higher road success which is calculated by

winning and/or tying at away games, as well as matches won or tied against teams with high winning percentage.

Descriptive statistics of all the variables used in the model can be found in Table 1.

**Table 1** **Summary Statistics**

Variable	Definition	N	Mean	Std Dev	Minimum	Maximum
SUCCESS	Total points earned	206	26.4078	11.0911	4.0000	61.0000
TOTALPLAYER	Total number of players	206	23.6602	2.7605	18.0000	33.0000
INTPERCT	International players in percentage of the total players	206	0.3102	0.1666	0	0.7083
SRPERCT	Senior players in percentage of the total players	206	0.2318	0.0917	0	0.4815
COACHEX	Total years as a Head Coach	206	14.2621	9.6297	1.0000	42.0000
CONF_RPI	Adjusted conference RPI	206	0.4869	0.0453	0.3892	0.5884

## V. Results

The OLS results of the model are reported in table 2. The number of observations were 206 which represents the total number of teams enrolled in the NCAA Division I men’s soccer 2018 season. The SUCCESS variable has a minimum value of 4 and a maximum value of 61 which represents the total amount of points earned. Central Connecticut State University and Virginia Military Institute represent the minimum value and Indiana represents the maximum value.

From observing the data on table 2, we can see that the TOTALPLAYER variable is insignificant, due to its t-value of -1.29, and a negative relationship of approximately 0.3572. The INTPERCT variable is statistically insignificant with a t-value of -0.30 and has a negative

effect of 0.0135. The SRPERCT variable has a slightly positive relationship of approximately 0.0224 but statistically insignificant due to its t-value of 0.28. The COACHEX variable is statistically insignificant since it has a t-value of -1.54, and has a negative effect of approximately 0.1203. The CONF\_RPI is the only variable that is statistically significant due to its t-value of 4.17, and has a positive relationship of approximately 70.7032. After doing the White Test, with an assumption of a possible existence of heteroskedasticity in the model, those values changed but as we can see in table 3, there is no significant difference in the results. The R-squared and the Adjusted R-squared are very low, meaning that a very small proportion, 8.25% to be exact, of the variance for the NCAA Division I college men's soccer success are explained by the independent variables, INTERPERCT, TOTALPLAYER, SRPERCT, COACHEX, and CONF\_RPI. We can also observe that the root MSE value is 10.6240, and the F-statistic has a value of 4.68 and the p-value associated with this is 0.0005. This means that the p-value is less than the given significance level of a conventional and arbitrary threshold of 0.05, therefore we do have significant evidence to reject the null hypothesis.

**Table 2** *Regression Analysis Results of OLS with Dependent Variable SUCCESS*

<b>Independent Variable</b>	<b>Coefficients</b>	<b>Standard Error</b>	<b>T-Value</b>	<b>Pr &gt;  t </b>
INTERCEPT	2.0496	11.9842	0.17	0.8644
TOTALPLAYER	-0.3572	0.2774	-1.29	0.1994
INTERPERCT	-1.3498	4.5309	-0.30	0.7661
SRPERCT	2.2441	8.1474	0.28	0.7833
COACHEX	-0.1203	0.0783	-1.54	0.1257
CONF_RPI	70.7032	16.9657	4.17	<.0001
Summary Statistic				
N	206			

Adjusted R <sup>2</sup>	0.0825
Root MSE	10.6240
SSE	22574
F-Value	4.68
Pr > F	0.0005

**Table 3** *Regression Analysis Results of OLS with Dependent Variable SUCCESS  
(Heteroscedasticity Consistent with the White Test)*

Independent Variable	Coefficients	New Std Error	New T-Value	New Pr >  t
INTERCEPT	2.0496	11.8282	0.17	0.8626
TOTALPLAYER	-0.3572	0.2695	-1.33	0.1866
INTPERCT	-1.3498	4.6752	-0.29	0.7731
SRPERCT	2.2441	8.3084	0.27	0.7874
COACHEX	-0.1203	0.0768	-1.57	0.1186
CONF_RPI	70.7032	16.8386	4.20	<.0001
Summary Statistic				
N	206			
Adjusted R <sup>2</sup>	0.0825			
Root MSE	10.6240			
SSE	22574			
F-Value	4.68			
Pr > F	0.0005			

Throughout the 2018 season, the TOTALPLAYER indicator has a minimum value of 18 players, a maximum of 33 players, and its mean value is 23.6602 players which can be rounded to 24 players. This model shows that this indicator has negative relationship with the dependent variable SUCCESS. It shows that the SUCCESS values of a team will drop by 0.3572 times the

total number of players enrolled in that team. It implies that the size of a squad actually has a negative impact on winning and tying games which contradicts what I predicted in the beginning of this study. The teams with the smallest sizes of squad are the University of Connecticut, Villanova, and Old Dominion and the team with the biggest squad size is Wofford. Respectively, their SUCCESS values or total points earned in 2018 are 38, 23, 35, and 16. The parameter estimate is not statistically significant, since its p-value is greater than the significance level which indicates that there is insufficient evidence in my sample to conclude that a non-zero correlation exists between this variable and the dependent variable, SUCCESS. Thus, we should be careful when evaluating the effect of the total players on a team's success. The unexplained gap between rosters might clarify as to why the unexpected sign of this variable turned out to be negative. This variable does not identify how many players played during the season or how many minutes each player played, which ultimately is the most important data. It doesn't matter if a team has 31 players if only 18, 20 or 25 of them actually played during the season. This might explain why is that some teams with many players have a low success. It can also be related to the factors that they belong to a weak conference or that they had a tougher schedule, or their win-loss ratio was lower than other teams. Examples could be Wofford, Boston University, Gardner-Webb, etc.

The INTPERCT indicator, which represents the percentage of the total players per team that are international players, has a minimum value of 0 or 0%, a maximum value of 0.7083 or 70.83%, and a mean value of about 0.3102 or 31.02%. This model shows that this indicator has a negative relationship with the dependent variable SUCCESS. It shows that the SUCCESS values of a team will decrease by 1.3498 times the percentage of the total players that are international who are enrolled in that team. It implies that the number of international players actually has a



negative impact on winning and tying games which contradicts what I predicted in the beginning of this study and opposes my hypothesis. The universities that international players represent 0% of their squad are the Lehigh, Air Force, William & Mary, SMU, Navy, and Army West Point and the team with the highest percentage of international players enrolled is FGCU. Their total points earned in 2018 are 29, 51, 28, 33, 16, 26, and 29, respectively. As mentioned in the paragraph above, due to being statistically insignificant we should be cautious when evaluating the effect of international players on a team's success. This could also be explained due to teams partaking in a weaker schedule resulting in having more points than other teams. An example is Air Force which has one of the lowest schedule ratings meaning that, in theory, they had played against weaker opponents. Another example could be the University of Akron which had one of the strongest conferences RPI, a tough schedule rating and a high opponent success rating, and still achieving high success points.

The SRPERCT indicator has a minimum value of 0 or 0%, a maximum value of approximately 0.4815 or 48.15%, and a mean value of 0.0917 or 9.17%. This model shows that this indicator has a positive relationship with the dependent variable SUCCESS. It shows that the SUCCESS values of a team will increase by 2.2441 times the percentage of the total players that are seniors who are enrolled in that team. Although this variable is not statistically significant, it implies that the number of senior players have a positive impact on winning and tying games which verify what I predicted in the beginning of this study. The university that has zero senior players in its squad is the Mount St. Mary's, and the team with the highest percentage of senior players enrolled is Coastal Carolina. Their total points earned in 2018 are 10, and 30, respectively.

The COACHEX indicator has a minimum value of 1 year, a maximum of 42 years, and its mean value is 14.2621 which can be rounded to 14 years and 3 months. This model shows that this indicator has negative relationship with the dependent variable SUCCESS. It shows that the SUCCESS values of a team will drop by 0.1203 times the number of years a coach has as a head coach in the division I of men's college soccer. It implies that the more experienced a coach is in this competition the more likely is he/she to have a negative influence on winning and tying games which contradicts what I foretold in the beginning of this study. The universities with the less experienced coaches are the USC Upstate, FIU, Vermont, Radford, Florida Atlantic, Cleveland State, and Stetson and the team with most experienced coach is College of Charleston. Respectively, their SUCCESS values or total points earned in 2018 are 10, 21, 34, 21, 6, 15, 24, and 17. The parameter estimate of this variable is also statistically insignificant, therefore we should be careful when assessing the effect that the experience of the head coach has on a team's success. There is also a considerable gap of years of experience between the coaches and the quality of the coaches is not taken into consideration. There are several quality coaches amongst the NCAA ranks but with no coaching badge requirements and having 206 teams in Division I, there is a high possibility of existing underqualified coaches in men's college soccer. A possibility that could also explain the negative relation in coaching and success is that soccer has been evolving in the United States at such rapid rate that the most experienced coaches have not updated their skills of the game, leading them to a disadvantage when comparing to younger coaches. This could also be an undesirable effect because this variable was modeled as a linear relationship whereas it might have been modeled as a non-linear relationship.

The CONF\_RPI indicator has a minimum value of 0.3892 or 38.92%, a maximum value of approximately 0.5884 or 58.84%, and a mean value of 0.4869 or 48.69%. This model shows that this indicator has a strong positive relationship with the dependent variable SUCCESS. It shows that the SUCCESS values of a team will greatly increase by 70.7032 times the percentage value of its conference. This variable is the only that is statistically significant in my study, meaning that there is enough evidence to state that belonging to a stronger conference could impact on having a higher success. For example, other things equal, if the University of Akron moved to from the MAC to the ACC would boost their success not just by the conference RPI but also by the fact that they would play more conference games. Since they also belong to the highest conference RPI, their games would have a positive influence on the college RPI ranking. Although the difference between the values of these two conferences is small. A more considerable impact would be for a team belonging to the NEC, which has the lowest conference RPI, moving to the ACC. It implies that the team's conference RPI have a positive impact on winning and tying games which verify what I predicted in the beginning of this study. The conference that the lowest RPI in 2018 is the NEC, which have 9 teams as members, and the conference with the highest RPI is the ACC, which have 12 teams. The combined points earned by its members in 2018 are 180, and 394, respectively.

## VI. Conclusion

These results give us a good evidence that the model used in this regression analysis is not useful to support that international players are indeed an important factor on success in the NCAA Division I men's college soccer. Based merely on the values, the success throughout the 2018 season cannot be estimated by the size of a team's squad, by how many international players and senior players a team has, the years of experience its coach has in this competition

and can only be estimated if it has a strong schedule. The results of this regression show that the strength of schedule, measured by the conference RPI, does matter. Teams that are members of certain conferences have a higher success than teams that belong to other conferences.

The Atlantic Coast Conference, ACC, is considered to be the stronger conference due to its members usually having a higher winning percentage, having a more difficult schedule facing tougher opponents that have high conference RPI, and a higher road success. In fact, during the 2018 season, the ACC has the highest values in every category associated to the measuring of the conference RPI. It has the highest winning percentage, the highest opponent success, the highest opponent strength, which is related to the matches played against other teams whose RPI is also high, and the highest road RPI, representing the success at away games, of all 24 conferences. The Northeast Conference, NEC, has the opposite, having the lowest values on those categories except for the winning percentage, which is the second lowest. However, the conference RPI is not enough to predict the success and certainly does not mean that belonging to the stronger conference will get you the championship, as for the example of the winner of the 2018 season which was not a member of the ACC.

As we can observe in the Appendix, the number 1 on the college RPI was Indiana which belongs to the Big Ten conference, but the champion was Maryland, which is also a Big Ten's member and represented the 3<sup>rd</sup> position on the college RPI. Alongside the conference RPI, the road record, the last 10 games of the season, and the games played against top 25 teams are very important on deciding the college RPI ranking. Being able to reach the top 25 college RPI ranking is considered to be a positive and honorable accomplishment in college sports. Among those 25 teams, almost half of them had at least 31% of international players in their squad, which represents the mean value. Of those who qualified to the final four all had international

players but only 1 team, the University of Akron, had at least 31% of international players in its squad which eventually did reach the final. The 2018 champions, the University of Maryland had 28% of international players in its team, just a difference of 3% from the mean. The top 10 RPI ranking colleges were all teams that had international players in their squad. Although in the model suggested that international players don't have a positive relationship, this ultimately can show that the presence of international players have an impact on success and in particularly throughout the 2018 season. However, there are some exceptions such as the Air Force, a university who reach the top 25 without a single international player.

A reason that could explain why my model did not back up this claim is the precision of the variable used. Although this variable identifies the population of international students in the NCAA Division I men's college soccer, results or success are not directly affected by the number of international players there are in a team. The quality of those players is more important, which this variable does not recognize it. A variable that could represent the actual impact of the international players data would require a more depth research. Such data could be a combination on how many goals did they score, how many assists they made, how many clean sheets they did get, how many did win their regular season, how many won their conference championship, how many games did they win in the playoffs, how many reached the final four, how many won the college cup, how many were invited to the MLS combine, how many were drafted into MLS clubs and from what college did they came. This could give us a more detailed and accurate information about the influence of international players in men's college soccer. Individual remarks can help a team make an impact on games and seasons. An example of this in the professional soccer could be Lionel Messi and F.C. Barcelona. Since his professional debut in 2004, he has scored 627 goals and made 261 assists in 718 games. He has won 10

championships in Spain, 6 Spanish Cups, 8 Spanish Super Cups, 3 FIFA Club World Cups, 3 UEFA Super Cups and 4 UEFA Champions League titles which is the most prestige club competition in the world. Before his era, their rivals, Real Madrid were the dominant force in the domestic competitions. Before Real Madrid had 29 league titles whilst F.C. Barcelona had only 16 league titles. At the end of the 2018/2019 season, the last season, F.C. Barcelona has in all competitions 91 titles and Real Madrid has 91 titles. He has also won many prestige individual awards such as 6 Ballon D'Or which the greatest individual award in the world. Another example but in a different sport could be Michael Jordan who has won many individual awards, broke many records, and was the main influence on bringing success into the Chicago Bulls franchise, which didn't win anything before his era.

The model also estimated that the years of experience a coach has have a negative effect on success but what specific cases shows us is that it matters in achieve success. Examples of this are the universities that qualified for the final four of the 2018 college cup. Three of those four teams had a coach with 9 years of previous experience as a head coach such as the number 1 on the college RPI ranking, Indiana, the finalist, Akron, and the semifinalist Michigan St. The head coach of the 2018 champion, Maryland, had a coach with 27 years of previous experience. The Air Force, a team with zero international players, had a head coach with 9 years of experience. Six coaches of top 25 teams had more years of experience than the mean for years as head coach, the rest had almost around 10 years of experience. This can also contradict the results on the model regarding the negative relationship of the coaches' previous experience on success. Due to the fact that this variable was developed as a linear relationship, it might not be the best representation of the effect that coaching experience has on success. More experience at some point has diminished or even negative effect on team performance.

There are a few limitations to this study. There is a huge range in the total number of players on teams in the data set, which was gathered from the NCAA official records. Unfortunately, there are no explanation on why some teams have so many more players than others. This is no doubt driving some of the results. There is no information, on the NCAA or any other official website on men's college soccer that identifies players who are on scholarships, which prevents further research and analysis regarding the usage of financial aid on international players to verify if it is worth using those resources to recruit them. Due to this fact, it becomes difficult to evaluate one the main purposes of this study. There are limited data on other factors such as the quantity of the team's coaching staff, infrastructures, sponsors, and game attendance which could contribute to increase success during a season. There are no previous studies on college soccer regarding to the resources that can be used to improve performance. It might be the case that the variable conference RPI is a good proxy for all the omitted factors I previously reference. This have led me to interpret that the parameter estimate for this variable reflects that. The SUCCESS variable used in this model transmits the wrong meaning of success. In this competition, most points earned does not mean that a team could be the champion. This is due to college soccer being very different from professional soccer regarding the organization itself, the length of the season, and the rules on substitution that tends to give an advantage to teams that have a more physical philosophy than the traditional soccer mentality which is a balance of tactical knowledge, technical skills, and physical capacity management throughout the 90 minutes per game. Despite the results obtained, this study exposes interesting questions for future studies regarding the relationship between international players and success in the NCAA Division I men's college soccer.

## VII. Works Cited

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**Appendix****NCAA Division I Men's Soccer Top 25 RPI  
(Adjusted RPI through games of Dec. 9, 2018)**

University	RPI	Conference RPI	Road Record (w-l-t)	Last 10 Games (w-l-t)	Top 25 (w-l-t)	% of International Players
Indiana*	1	4	7-2-0	8-1-1	8-3-1	5
Wake Forest	2	1	5-1-0	7-3-0	5-3-0	20
Maryland***	3	4	6-3-1	8-1-1	7-3-4	28
Akron**	4	3	8-3-1	9-1-0	6-3-0	46
Louisville	5	1	3-3-1	5-4-1	5-4-2	36
North Carolina	6	1	5-1-1	6-3-1	5-3-0	21
Notre Dame	7	1	4-3-1	4-4-2	4-7-2	15
Kentucky	8	9	6-1-1	9-1-0	4-1-0	26
Stanford	9	2	5-1-3	6-2-2	1-1-3	10
Virginia	10	1	3-1-0	5-4-1	3-3-3	33
Saint Mary's (CA)	11	6	7-0-1	8-0-2	0-0-1	38
Michigan St.*	12	4	7-1-1	5-3-2	5-4-1	5
Virginia Tech	13	1	3-3-3	5-4-1	5-5-2	41
Georgetown	14	10	6-1-1	7-2-1	2-2-2	17
Duke	15	1	3-3-0	5-4-1	3-6-0	46
James Madison	16	12	6-2-2	7-2-1	2-2-0	48
Air Force	17	14	7-3-0	7-3-0	2-2-0	0
West Virginia	18	3	5-4-0	7-3-0	1-4-0	29
Denver	19	17	3-3-1	6-4-0	0-4-0	14
Rhode Island	20	13	5-4-0	7-3-0	0-0-0	47
UCF	21	7	5-1-0	7-1-2	1-0-1	41
Syracuse	22	1	3-4-2	4-3-3	2-5-1	64
New Hampshire	23	15	2-3-2	6-3-1	0-1-0	41
Charlotte	24	9	3-4-1	7-2-1	0-3-1	32
Michigan	25	4	3-1-2	4-3-3	1-3-2	30

Note: \* semi-finalists; \*\* finalist; \*\*\* champion